



A04-0052 04/30/01

***National
Environmental
Achievement Track***

Application Form

Novozymes North America, Inc.

Name of facility

Novozymes

Name of parent company (if any)

P.O Box 576

Street address

77 Perry Chapel Church Rd.

Street address (continued)

Franklinton, NC 27525-0576

City/State/Zip code

Give us information about your contact person for the
National Environmental Achievement Track Program.

Name Jack W. Blackmer

Title Regulatory Compliance & External Affairs Specialist

Phone (919) 494-3378

Fax (919) 494-3462

E-mail jkbl@novozymes.com

Why do we need this information?

EPA needs background information on your facility to evaluate your application.

What do you need to do?

- Provide background information on your facility.
- Identify your environmental requirements.

Section A

Tell us about your facility.

1 What do you do or make at your facility?

Industrial enzymes primarily for the detergent, textile, baking, beverage, and fuel alcohol industries.

2 List the Standard Industrial Classification (SIC) code(s) or North American Industrial Classification System (NAICS) codes that you use to classify business at your facility.

SIC
2869

NAICS

3 Does your company meet the Small Business Administration definition of a small business for your sector?

☐ Yes

☒ No

4 How many employees (full-time equivalents) currently work at your facility?

☐ Fewer than 50

☐ 50-99

☒ 100-499

☐ 500-1,000

☐ More than 1,000

Section A, continued

5 Does your facility have an EPA ID number(s)?

☒ Yes

☐ No

If yes, list in the right-hand column.

RCRA - NCD982171415; NPDES - NCG500115;
EPCRA TRI - 2752NVBCHSTATE; CAA RMP - 1000 0010
9937

6 Identify the environmental requirements that apply to your facility. Use the Environmental Requirements Checklist, at the back of the instructions, as a reference. List your requirements to the right **or** enclose a completed Checklist with your application.

Checklist enclosed

7 Check the appropriate box in the right-hand column.

☐ I've listed the requirements above.

☒ I've enclosed the Checklist with my application.

8 Optional: Is there anything else you would like to tell us about your facility?

Our company has long been a leader in environmental management and stewardship. We have been active in communications and training by providing resources to area colleges and universities and participating in voluntary programs including the EPA ISO 14001 Multi-State Working Group and North Carolina Pilot ISO 14001 Project. Please see the attached site profile.

All employees at our facility were involved in the implementation of our ISO 14001 environmental management system and have contributed to its success. Useful items such as stadium cups and flashlights inscribed with key points about our EMS were provided at annual training sessions and have aided in employee awareness and continued involvement.

Section B

Tell us about your EMS.

Why do we need this information?

Facilities need to have an operating Environmental Management System (EMS) that meets certain requirements.

What do you need to do?

- Confirm that your EMS meets the Achievement Track requirements.
- Tell us if you have completed a self-assessment or have had a third-party assessment of your EMS.

1 Check **yes** if your EMS meets the requirements for each element below as defined in the instructions.

a. Environmental policy

☒ Yes

b. Planning

☒ Yes

c. Implementation and operation

☒ Yes

d. Checking and corrective action

☒ Yes

e. Management review

☒ Yes

2 Have you completed at least one EMS cycle (plan-do-check-act)?

☒ Yes

3 Did this cycle include both an EMS and a compliance audit?

☒ Yes

4 Have you completed an objective self-assessment or third-party assessment of your EMS?

☒ Yes

If yes, what method of EMS assessment did you use?

☐ Self-assessment

☐ GEMI

☐ Other

☐ CEMP

☒ Third-party assessment

☒ ISO 14001 Certification

☐ Other

Why do we need this information?

Facilities need to show that they are committed to improving their environmental performance. This means that you can describe past achievements and will make future commitments.

What do you need to do?

Refer to the Environmental Performance Table in the instructions to answer questions 1 and 2.

Section C

Tell us about your past achievements and future commitments.

- 1 Describe your past achievements for at least two environmental aspects. If you need more space than is provided, attach copies of this page.

Note to small facilities: If you qualify as a small facility as defined in the instructions, you need to report past achievement for at least one environmental aspect.

First aspect you've selected

What aspect have you selected?	What was the previous level (2 years ago)?		What is the current level?	
	Quantity	Units	Quantity	Units
Total Nitrogen in Process Wastewater Spray Irrigated	300	mg/l	80	mg/l
<p>i. How is the current level an improvement over the previous level?</p> <p>The average concentration of total nitrogen (TKN + Nitrates) was reduced from 300 mg/l to 80 mg/l. This resulted in a much lower level of nitrogen in process wastewater being spray irrigated on crop lands.</p> <p>ii. How did you achieve this improvement?</p> <p>Our waste water treatment system was redesigned and converted from a facultative lagoon system to a complete mix, extended aeration, activated sludge BNR (Biological Nutrient Removal) system at a cost of \$2.6 Million. The nitrogen content of waste water has decreased dramatically as a result of the upgrade. In addition, optimization of the system has resulted in significant biological uptake of phosphorus which is diverted to spent process residuals where it is land applied at agronomic rates.</p>				

Second aspect you've selected

What aspect have you selected?	What was the previous level (2 years ago)?	What is the current level?								
Solid Waste Generated by Production	<table style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 50%;">Quantity</th> <th style="width: 50%;">Units</th> </tr> <tr> <td style="text-align: center;">781</td> <td style="text-align: center;">Tons</td> </tr> </table>	Quantity	Units	781	Tons	<table style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 50%;">Quantity</th> <th style="width: 50%;">Units</th> </tr> <tr> <td style="text-align: center;">659</td> <td style="text-align: center;">Tons</td> </tr> </table>	Quantity	Units	659	Tons
Quantity	Units									
781	Tons									
Quantity	Units									
659	Tons									
<p>i. How is the current level an improvement over the previous level?</p> <p style="margin-left: 40px;">Solid waste generation in production was reduced by 15.6% over the past two years.</p>										
<p>ii. How did you achieve this improvement?</p> <p style="margin-left: 40px;">The improvement is related to source reduction initiatives related to installation of solids bulk handling equipment and process yield improvements.</p>										

- 2 Select at least four environmental aspects (no more than two from any one category) from the Environmental Performance Table in the instructions and then tell us about your future commitments. If you need more space than is provided, attach copies of this page.

Note to small facilities: If you are a small facility, you need to make commitments for at least two environmental aspects in two different categories.

First aspect you've selected

- a. What is the aspect?
- Solid Waste - Production
- b. Is this aspect identified as significant in your EMS?
- ☒ Yes ☐ No
- c. What is the current level? You may choose to state this as an absolute value or in terms of units of production or output.
- ☒ Option A:
Absolute value

659 Tons
(Quantity/Units)

☐ Option B:
In terms of
units of production
or output

(Quantity/Units)

d. What is the level you are committing to achieve over the next three years? You may choose to state this as an absolute level or in terms of units of production or output.

- ☒ Option A:
Absolute value 560 Tons
(Quantity/Units)
- ☐ Option B:
In terms of
units of production (Quantity/Units)
or output

e. How will you achieve this improvement?

This goal is to reduce the pounds of solid waste generated by another 15% in order to reduce depletion of solid waste landfill space. This will be accomplished by initiatives such as:

Purchase and install alternative filtration technology

Use of more efficient filtration media

Process efficiency improvements

Second aspect you've selected

a. What is the aspect?

Solid Waste Recycling

b. Is this aspect identified as significant in your EMS?

☐ Yes ☒ No

c. What is the current level? You may choose to state this as an absolute value or in terms of units of production or output.

- ☐ Option A:
Absolute value (Quantity/Units)
- ☒ Option B:
In terms of
units of production 92.67 lbs/ton
or output (Quantity/Units)

d. What is the level you are committing to achieve over the next three years? You may choose to state this as an absolute level or in terms of units of production or output.

- ☐ Option A:
Absolute value (Quantity/Units)
- ☒ Option B:
In terms of
units of production 106.57 lbs/ton
or output (Quantity/Units)

e. How will you achieve this improvement?

This goal is to increase the amount of materials being recycled per unit of total solid waste generated at the site (not including construction wastes) by 15%. All employees at the site can contribute to this improvement. Actions planned to accomplish this include:

More use of recyclable containers in production

Improved employee recycling awareness to increase recycling of paper, cardboard, glass, aluminum, and toner cartridges.

Third aspect you've selected

a. What is the aspect?

Eco-productivity Index of Water Consumption

b. Is this aspect identified as significant in your EMS?

☒ Yes ☐ No

c. What is the current level? You may choose to state this as an absolute value or in terms of units of production or output.

☐ Option A:
Absolute value
(Quantity/Units)

☒ Option B:
In terms of
units of production
or output
1.04 (vs. 1999)
(Quantity/Units)

d. What is the level you are committing to achieve over the next three years? You may choose to state this as an absolute level or in terms of units of production or output.

☐ Option A:
Absolute value
(Quantity/Units)

☒ Option B:
In terms of
units of production
or output
1.015 Each Year
(Quantity/Units)

e. How will you achieve this improvement?

The eco-productivity index measures the relative efficiency of water usage per unit of enzyme produced. The index is calculated taking into account production volumes, production yields, and water usage. (Please see attached Excel Spreadsheet).

Although substantial improvements have already been made and significant water usage at the site is needed to maintain systems such as heating and air conditioning that are not directly related to production, we are striving to improve our water usage efficiency by 4.5% over the next three years. This will be done through improvements in process efficiency, water recycling and reuse.

Fourth aspect you've selected

a. What is the aspect?

Land Application of Process Residuals

b. Is this aspect identified as significant in your EMS?

☐ Yes ☒ No

c. What is the current level? You may choose to state this as an absolute value or in terms of units of production or output.

☐ Option A:
Absolute value
(Quantity/Units)

☒ Option B:
In terms of
units of production
or output
5.77 cu m/ton
(Quantity/Units)

d. What is the level you are committing to achieve over the next three years? You may choose to state this as an absolute level or in terms of units of production or output.

☐ Option A:
Absolute value
(Quantity/Units)

☒ Option B:
In terms of
units of production
or output
4.33 cu m/ton
(Quantity/Units)

e. How will you achieve this improvement?

We are currently land-applying an average of 5.77 cubic meters of residuals from our biological fermentation production processes per ton of enzymes harvested. We plan to reduce this amount by 25% over the next three years using one or both of the following initiatives:

Composting of process residuals

Reduction in volume by improved process residuals slurry transport techniques

Why do we need this information?

Facilities need to demonstrate their commitment to public outreach and performance reporting. You should have appropriate mechanisms in place to identify community concerns, to communicate with the public, and to provide information on your environmental performance.

Section D

Tell us about your public outreach and reporting.

What do you need to do?

- Describe your approach to public outreach.
- List three references who are familiar with your facility.

1 How do you identify and respond to community concerns?

We are located in a rural area. We are active on our Local Emergency Planning Committee and the County Chamber of Commerce. Our ISO 14001 EMS External Communications Procedure specifies requirements for receiving, documenting, and responding to any questions or concerns from external interested parties.

2 How do you inform community members of important matters that affect them?

We keep the community informed through involvement in government, academic, and civic organizations. We frequently conduct field training classes to improve environmental education regarding process waste recycling and beneficial re-use. We also conduct an annual meeting for members of the surrounding farming community to update them on environmental matters of interest.

3 How will you make the Achievement Track Annual Performance Report available to the public?

☐ Website [www.](#)

☐ Newspaper

☒ Open Houses

☒ Other

The report will be made available to the LEPC and any interested parties who request it.

4 Are there any ongoing citizen suits against your facility? ☐ Yes ☒ No

If yes, describe briefly in the right-hand column.

5 List references below

	<i>Organization</i>	<i>Name</i>	<i>Phone number</i>
<i>Representative of a Community/ Citizen Group</i>	Franklin County Emergency Services	Angie Callihan Director	(919) 496-5005
<i>State/Local Regulator</i>	NC Department of Environment & Natural Resources	Gary Hunt Director, Division of Pollution Prevention & Environmental Assistance.	(919) 715-6508
<i>Other community/local reference</i>	North Carolina State University	Dr. Robert A. Rubin Professor, Biological & Agricultural Engineering	(919) 515-6791

Section E

Application and Participation Statement.

On behalf of Novozymes North America, Inc.
[my facility],

I certify that

- I have read and agree to the terms and conditions, as specified in the *National Environmental Achievement Track Program Description* and in the *Application Instructions*;
- I have personally examined and am familiar with the information contained in this Application (including, if attached, the Environmental Requirements Checklist). The information contained in this Application is, to the best of my knowledge and based on reasonable inquiry, true, accurate, and complete, and I have no reason to believe the facility would not meet all program requirements;
- My facility has an environmental management system (EMS), as defined in the Achievement Track EMS requirements, including systems to maintain compliance with all applicable federal, state, tribal, and local environmental requirements, in place at the facility, and the EMS will be maintained for the duration of the facility's participation in the program;
- My facility has conducted an objective assessment of its compliance with all federal, state, tribal, and local environmental requirements, and the facility has corrected all identified instances of potential or actual noncompliance;
- Based on the foregoing compliance assessment and subsequent corrective actions (if any were necessary), my facility is, to the best of my knowledge and based on reasonable inquiry, currently in compliance with applicable federal, state, tribal, and local environmental requirements.

I agree that EPA's decision whether to accept participants into or remove them from the National Environmental Achievement Track is wholly discretionary, and I waive any right that may exist under any law to challenge EPA's acceptance or removal decision.

I am the senior facility manager and fully authorized to execute this statement on behalf of the corporation or other legal entity whose facility is applying to this program.

Signature/Date

Printed Name/Title Lee Yarbrough/President

Facility Name Novozymes North America, Inc.

Facility Street Address 77 Perry Chapel Church Road Franklinton, NC 27525

Facility ID Numbers RCRA - NCD982171415; NPDES - NCG500115;
EPCRA TRI - 2752NVBCHSTATE; CAA RMP - 1000 0010 9937

The National Environmental Performance Track is a U.S. Environmental Protection Agency program. Please direct inquiries to 1-888-339-PTRK (7875) or e-mail ptrack@indecon.com. Mail completed applications to:

The Performance Track Information Center
c/o Industrial Economics Incorporated
2067 Massachusetts Avenue
4th Floor
Cambridge, MA 02140

National Environmental Achievement Track

Environmental Requirements Checklist

We've included the following Checklist to help you answer questions in Section A, Tell us about your facility. The Checklist will help you identify the major federal, state, tribal, and local environmental requirements that apply at your facility, but it is not an exhaustive list of all environmental requirements that may be applicable at your facility.

If you use this Checklist and choose to submit it with your application, fill in your facility information below and enclose the completed Checklist with your application (see instructions).

Air Pollution Regulations

Check All That Apply

- ☐ 1. National Emission Standards for Hazardous Air Pollutants (40 CFR 61)
- ☒ 2. Permits and Registration of Air Pollution Sources
- ☒ 3. General Emission Standards, Prohibitions and Restrictions
- ☐ 4. Control of Incinerators
- ☐ 5. Process Industry Emission Standards
- ☒ 6. Control of Fuel Burning Equipment
- ☐ 7. Control of VOCs
- ☒ 8. Sampling, Testing and Reporting
- ☒ 9. Visible Emissions Standards
- ☐ 10. Control of Fugitive Dust
- ☐ 11. Toxic Air Pollutants Control
- ☐ 12. Vehicle Emissions Inspections and Testing

- ☒ 13. Other (you must list these) Federal, State, Tribal or Local Regulations Not Listed Above
CAA Risk Management Plan (40 CFR 68)

Hazardous Waste Management Regulations

Check All That Apply

- ☒ 1. Identification and Listing of Hazardous Waste (40 CFR 261)
 - ☒ - Characteristic Waste
 - ☒ - Listed Waste
- ☒ 2. Standards Applicable to Generators of Hazardous Waste (40 CFR 262)
 - ☒ - Manifesting
 - ☐ - Pre-transport requirements
 - ☒ - Record keeping/reporting
- ☐ 3. Standards Applicable to Transporters of Hazardous Waste (40 CFR 263)
 - ☐ - Transfer facility requirements
 - ☐ - Manifest system and record-keeping
 - ☐ - Hazardous waste discharges
- ☐ 4. Standards for Owners and Operators of TSD Facilities (40 CFR 264)
 - ☐ - General facility standards
 - ☐ - Preparedness and prevention
 - ☐ - Contingency plan and emergency procedures

- ☐ - Manifest system, Record keeping and reporting
- ☐ - Groundwater protection
- ☐ - Financial requirements
- ☐ - Use and management of containers
- ☐ - Tanks
- ☐ - Waste piles
- ☐ - Land treatment
- ☐ - Incinerators
- ☐ 5. Interim Standards for TSD Owners and Operators (40 CFR 265)
- ☐ 6. Interim Standards for Owners and Operators of New Hazardous Waste Land Disposal Facilities (40 CFR 267)
- ☐ 7. Administered Permit Program (Part B) (40 CFR 270)
- ☐ 8. Other (you must list these) Federal, State, Tribal or Local Regulations Not Listed Above

Hazardous Materials Management

Check All That Apply

- ☒ 1. Control of Pollution by Oil and Other Hazardous Substances (33 CFR 153)
- ☒ 2. Designation of Reportable Quantities and Notification of Hazardous Materials Spill (40 CFR 302)
- ☐ 3. Hazardous Materials Transportation Regulations (49 CFR 172-173)
- ☒ 4. Worker Right-to-Know Regulations (29 CFR 1910.1200)
- ☒ 5. Community Right-to-Know Regulations (40 CFR 350-372)
- ☒ 6. Other (you must list these) Federal, State, Tribal or Local Regulations Not Listed Above
NC Right-to-know

Solid Waste Management

Check All That Apply

- ☐ 1. Criteria for Classification of Solid Waste Disposal Facilities and Practices (40 CFR 257)
- ☐ 2. Permit Requirements for Solid Waste Disposal Facilities
- ☐ 3. Installation of Systems of Refuse Disposal
- ☐ 4. Solid Waste Storage and Removal Requirements
- ☐ 5. Disposal Requirements for Special Wastes
- ☐ 6. Other (you must list these) Federal, State, Tribal or Local Regulations Not Listed Above

Water Pollution Control Requirements

Check All That Apply

- ☒ 1. Oil Spill Prevention Control and Countermeasures (SPCC) (40 CFR 112)
- ☒ 2. Designation of Hazardous Substances (40 CFR 116)

- ☒ 3. Determination of Reportable Quantities for Hazardous Substances (40 CFR 117)
- ☒ 4. NPDES Permit Requirements (40 CFR 122)
- ☐ 5. Toxic Pollutant Effluent Standards (40 CFR 129)
- ☐ 6. General Pretreatment Regulations for Existing and New Sources (40 CFR 403)
Name of POTW
ID # of POTW
- ☐ 7. Organic Chemicals Manufacturing Point Source Effluent Guidelines and Standards (40 CFR 414)
- ☐ 8. Inorganic Chemicals Manufacturing Point Source Effluent Guidelines and Standards (40 CFR 415)
- ☐ 9. Plastics and Synthetics Point Source Effluent Guidelines and Standards (40 CFR 416)
- ☒ 10. Water Quality Standards
- ☒ 11. Effluent Limitations for Direct Dischargers
- ☒ 12. Permit Monitoring/Reporting Requirements
- ☒ 13. Classifications and Certifications of Operators and Superintendents of Industrial Wastewater Plants
- ☐ 14. Collection, Handling, and Processing of Sewage Sludge
- ☐ 15. Oil Discharge Containment, Control and Cleanup
- ☐ 16. Standards Applicable to Indirect Discharges (Pretreatment)
- ☒ 17. Other (you must list these) Federal, State, Tribal or Local Regulations Not Listed Above
NC Permitting of wastewater spray irrigation
NC Permitting of Land Application of process residuals
NC Laboratory Certification for environmental testing

Drinking Water Regulations

Check All That Apply

- ☐ 1. Underground Injection and Control Regulations, Criteria and Standards (40 CFR 144, 146)
- ☐ 2. National Primary Drinking Water Standards (40 CFR 141)
- ☐ 3. Community Water Systems, Monitoring and Reporting Requirements (40 CFR 141)
- ☐ 4. Permit Requirements for Appropriation/Use of Water from Surface or Subsurface Sources
- ☐ 5. Underground Injection Control Requirements
- ☐ 6. Monitoring, Reporting and Record keeping Requirements for Community Water Systems
- ☐ 7. Other (you must list these) Federal, State, Tribal or Local Regulations Not Listed Above

Toxic Substances

Check All That Apply

- ☒ 1. Manufacture and Import of Chemicals, Record-keeping and Reporting Requirements (40 CFR 704)

- ☒ 2. Import and Export of Chemicals (40 CFR 707)
- ☒ 3. Chemical Substances Inventory Reporting Requirements (40 CFR 710)
- ☐ 4. Chemical Information Rules (40 CFR 712)
- ☒ 5. Health and Safety Data Reporting (40 CFR 716)
- ☒ 6. Pre-Manufacture Notifications (40 CFR 720)
- ☐ 7. PCB Distribution Use, Storage and Disposal (40 CFR 761)
- ☐ 8. Regulations on Use of Fully Halogenated Chlorofluoroalkanes (40 CFR 762)
- ☐ 9. Storage and Disposal of Waste Material Containing TCDD (40 CFR 775)

- ☒ 10. Other (you must list these) Federal, State, Tribal or Local Regulations Not Listed Above
 - Significant new uses of chemical substances (40 CFR 721)
 - Premanufacture notification exemptions (40 CFR 723)
 - Reporting requirements and review processes for microorganisms (40 CFR 725)

Pesticide Regulations

Check All That Apply

- ☐ 1. FIFRA Pesticide Use Classification (40 CFR 162)
- ☐ 2. Procedures Storage and Disposal of Pesticides and Containers (40 CFR 165)
- ☐ 3. Certification of Pesticide Applications (40 CFR 171)
- ☐ 4. Pesticide Licensing Requirements
- ☐ 5. Labeling of Pesticides
- ☐ 6. Pesticide Sales, Permits, Records, Application and Disposal Requirements
- ☐ 7. Disposal of Pesticide Containers
- ☐ 8. Restricted Use and Prohibited Pesticides

- ☐ 9. Other (you must list these) Federal, State, Tribal or Local Regulations Not Listed Above

Environmental Clean-Up, Restoration, Corrective Action

Check All That Apply

- ☐ 1. Comprehensive Environmental Response, Compensation and Liability Act (Superfund) (Please identify)

- ☐ 2. RCRA Corrective Action

- ☐ 3. Other (you must list these) Federal, State, Tribal or Local Regulations Not Listed Above

Facility Name Novozymes North America, Inc.
Facility Location: Franklin Co. North Carolina
Facility ID Number(s): RCRA - NCD982171415; NPDES - NCG500115; EPCRA TRI - 2752NVBCHSTATE; CAA RMP - 1000 0010 9937



NOVOZYMES NORTH AMERICA, INC.

Franklinton, NC

Novozymes North America, Inc. is an industrial enzyme manufacturing facility located in rural Franklin County, about 25 miles northeast of Raleigh. Our company is headquartered in Denmark and the facility in North Carolina serves as North American Headquarters producing a wide range of industrial enzymes, primarily for the North American market. Besides a large production operation, our site houses sales and marketing, applied discovery (R&D), technical services, a pilot plant, and several site support functions. Our facility was first constructed in 1979 and has been expanded several times. We employ about 400 full time people and 60+ temporaries.

Our slogan, “Unlocking the Magic of Nature’s Own Technology” provides a clue that we are using nature’s own processes to enhance processing and products. We serve several markets with our enzymes including detergents, textiles, baked goods, food and beverages, and ethanol for fuel. Our products act as catalysts which improve the processes that many of our customers use to produce their products, and improves the effectiveness of many of their products as well. Our enzymes allow many of our customers to use less energy and lesser amounts of materials, especially hazardous materials, in their operations.

We use a number of materials in making our products including microorganisms, food grade materials such as starch and vegetable oils, and chemicals such as acids and bases. The main by-products of our production are wastewater and spent biomass. Think of the spent biomass as primarily “uneaten food scraps” (starches, sugars, etc) from the fermentation step that is used to grow the enzymes. The spent biomass and wastewater that are separated from the enzymes products are treated and recycled as usable fertilizer on surrounding farmland. These by-products do not contain any hazardous materials and are very beneficial to crop production so recycling is of benefit both to our company and to the farmers in the community.

Novozymes North America, Inc. is committed to maintaining a balance of economic, environmental, and social priorities and goals which is in keeping with the worldwide Novozymes “Triple Bottom Line” approach. In Year 2000, all site employees played a part in striving to meet a “Balanced Scorecard” of objectives aimed at continual improvement in economic, environmental & safety, and social performance. We have established management systems and become certified to ISO 9001 and ISO 14001. Maintaining effective management systems is an ongoing responsibility of all employees at the site.

We are active in supporting our State and community interests through several on-going activities including the NC DENR ISO 14001 Pilot Project, and activities of the Franklin County Chamber of Commerce, as well as providing educational environmental presentations for students at area colleges and universities.

Novozymes North America, Inc. is committed to being a responsible corporate citizen that is dedicated to excellence in all that we do.

ECO-PRODUCTIVITY INDEX - EXAMPLE CALCULATION

Year	Production volume index	Fermentation yield index	Production index	Water used in M3	Water consumption index	Water EPI
1999				904,112		
2000	1.018	1.063	1.082	939,588	1.039	1.04

Production Volume Index = Total fermentation harvest in current year/Total fermentation harvest in previous year

Fermentation Yield Index = Aggregate of fermentation yield improvements (or decreases) compared to previous year

Production Index = Production Volume Index X Fermentation Yield Index - (This represents a measure of of the units of enzymes produced compared to previous year)

Water Used = Total water consumed at the plant site

Water Consumption Index = Water used in current year/Water used in previous year

Water EPI = Production Index/Water Consumption Index